BELLCOMM, INC.
955 L'ENFANT PLAZA NORTH, S.W. WASHINGTON, D.C. 20024

SUBJECT: C' Mission - Targets-of-Opportunity Photographic Plan for the Month of January, 1969
Case 340

DATE: December 6, 1968

FROM: F. El-Baz

ABSTRACT

The C' (lunar orbit) targets-of-opportunity photographic plan for the month of January, 1969 was prepared by Lewis Wade/MSC, John Dietrich/MSC, and myself at the Mapping Sciences Branch of MSC on November 20-21, 1968.

Emphasis was largely put on the incorporation of more photo strips than individual targets to simplify the plan and maximize the scientific return. It was found that the film budget allows for taking a large number of continuous photo strips. However, this could not be implemented in the December plans because they are now in a final form.

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MEMORANDUM FOR FILE

The C' (lunar orbit) targets-of-opportunity photographic plan for the month of Januray, 1969 was prepared by Lewis Wade/MSC, John Dietrich/MSC, and myself at the Mapping Sciences Branch of MSC on November 20-21, 1968.

During the preparation of the targets-of-opportunity photographic plan for the month of December, 1968, a list of 194 targets-of-opportunity was compiled from a number of lists provided by interested agencies and institutions. These sites were all considered for the January plan as were 18 additional sites proposed by the Lunar and Planetary Laboratory, Tucson, Arizona (communicated by Bob Strom).

In the plan for the month of December, more than half of the targets were treated as individual sites, i.e., were included in the plan as targets for single (or a small number of) frames. At that time, the planners were rather conservative in the allocation of film due to two reasons: First, because of previous experience in mission planning for Lunar Orbiter; and second, because no effort was made to estimate the exact amount of film allotted to targets-of-opportunity as part of the gross photo plan. However, it was stated that we could use more photo strips than planned if the film budget allows.

We are learning that the film budget would have allowed planning more photo strips, and in retrospect, it is now obvious that more strips should have been planned at that time for the following reasons:

1. To simplify the procedures for the astronauts, real-time operations, and post-mission data processing;

2. To obtain more total photographic coverage for scientific studies and geologic mapping;

3. To obtain more stereo photography which may be of use for terrain analysis of specific areas;

4. To photograph targets of interest which may have been missed in pre-planning site selection; and

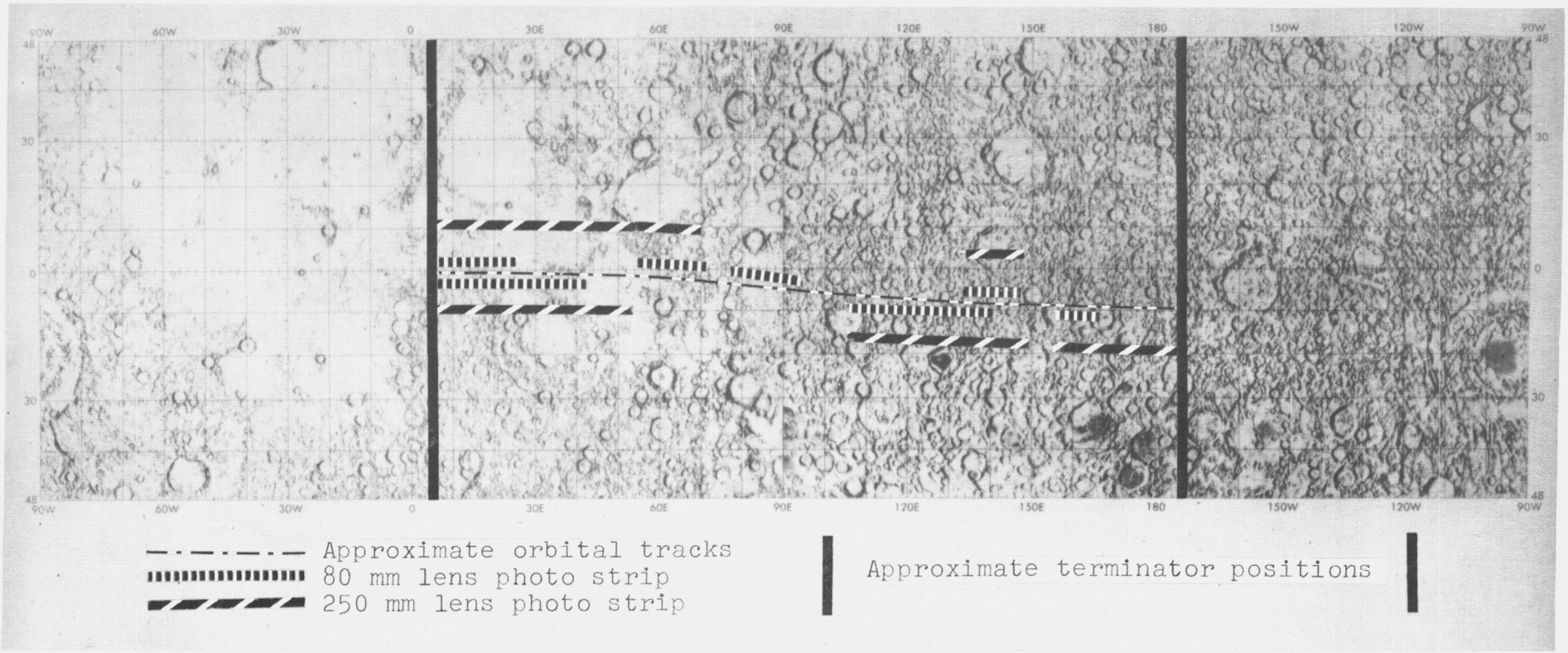
5. Once a plan is in the prototype stage, it is difficult to change it even for the better.

With the above considerations in mind, the photographic plan for targets-of-opportunity for the month of January, 1969 includes many more continuous photo strips. The attached example, for January 21, illustrates the advantage of such a plan. The total film to be used in this example is about 500 frames, which is approximately equivalent to the amount allocated for targets-of-opportunity. In a similar situation in the December plan, about two-fifths of the film budget will be unused.

Upon completion of the plan for January, the idea of revising the December plan accordingly was entertained. However, we learned that it has already been put in semi-final form and was made familiar to the C' astronauts and operations personnel. Therefore, it would be difficult, at this late date, to try to familiarize them with a new plan, even if it is simpler and more appropriate.

Farouk El-Baz

2015-FEB-kse F. El-Baz



SCHEMATIC ILLUSTRATION OF THE MAJOR PHOTO STRIPS FOR THE JANUARY 21 LAUNCH OPPORTUNITY

(MORE ACCURATE PLANS FOR ALL 7 OPPORTUNITIES WILL BE ISSUED BY THE MAPPING SCIENCE BRANCH/MSC)